

Center for Renewable Energy Research and Environmental Stewardship
May 22, 2014 Meeting Minutes
Conn Center for Renewable Energy Research

Present: Dr. Len Peters, Cam Metcalf, Ken Seibert, Dr. Don Colliver, Art Williams, Rhonda Trautman, Chad Eames, Kelley Kline

Also present: John Davies, DEDI; John Lyons, EEC; Kenya Stump, DEDI, Andrew Marsh, Conn Center; Dr. Mahendra Sunkara, Conn Center.

Welcome and Introduction of Members and Visitors

Dr. Len Peters

Certification of Open Meeting

Dr. Len Peters certified the meeting was publically advertised and had no further comments. A quorum was present for the meeting to be conducted.

Approval of Meeting Minutes

Dr. Len Peters presented the minutes for approval. Motion of approval was made and seconded. The Board voted for unanimous acceptance and the approved minutes were accepted by Dr. Peters.

Presentation on Cabinet's Comments on Standards of Performance for Greenhouse Gas Emissions from New Stationary Sources: Electric Utility Generating Units and Understanding HB 388

John Lyons

Mr. Lyons summarized the New Source Performance Standard for New Electric Generating Units, also known as 111(b) and discussed the Cabinet's comments regarding the proposed standard and the implications for Kentucky. He discussed the history of greenhouse gas litigation. As far as the Cabinet's comments, Mr. Lyons provided five key areas of concern within the rule: (1) CCS is not adequately demonstrated on a commercial scale; (2) the rule inappropriately sets energy policy; (3) the emission standard for coal is unreasonable and the Cabinet recommended 1,700 lbsCO₂/MWh; (4) the costs and economic impacts were not properly considered; and (5) the rulemaking constitutes a significant energy action. He further reviewed that the 111(d) rulemaking for existing sources that is preceded by 111(b) will be issued in June and questions that the Cabinet has in regards to the upcoming proposal. Following the questions that the Cabinet hopes is addressed in 111(d), Mr. Lyons reviewed House Bill 388 and that the full impact is unknown at this time but a Federal Implementation Plan may be a result if Kentucky is unable to submit a plan meeting the 111(d) guidelines. He concluded that the regulation of GHGs has the potential to raise electricity prices in Kentucky significantly; CCS is not adequately demonstrated on a commercial scale; an "all of the above" energy strategy is crucial to economic vitality; and Kentucky law could prevent EEC from being able to develop an approvable plan.

Ms. Kline requested how other states have framed their comments and if they are aligned with Kentucky's comments. Mr. Lyons stated that there have been limited discussions among states on their 111(b) comments but suggested that carbon intensive states and industry would have similar comments.

Dr. Peters pointed out that there are other interested parties whose primary position is to address EPA's lack of legal authority to regulate electric generating units under Section 111. While the Cabinet did address legal concerns, the Cabinet also recognized the need to provide comments relating to the Section 111 in the event it does withstand legal opposition. Specifically, relating to 111(d), Secretary Peters pointed out how the Cabinet's White Paper addressed the use of energy efficiency as a way to tie emission reductions back to the electric generating unit.

Mr. Colliver asked what EPA's responsibility is to respond to comments. Mr. Lyons discussed that EPA does not have to address all the comments submitted and it is not a consensus process. Dr. Peters discussed how Kentucky's visibility nationwide has been raised since the White Paper and Kentucky's ability to impact policy discussions. Ms. Kline pointed out the important theme of the difference between manufacturing and consumer states as indicated in Mr. Lyons' presentation.

Ms. Kline asked if HB 388 impacts Kentucky's ability to utilize energy efficiency. Mr. Lyons discussed that the bill could limit our ability along with other system wide measures outside of heat rate improvements.

Finally, there was a group discussion on the fact that other sectors could face greenhouse gas regulations by EPA under Section 111. Mr. Lyons discussed that most air quality regulations are promulgated by industrial sector.

Glasgow Landfill Gas to Energy Project Mayor Trautman

Mayor Trautman reviewed the history behind Glasgow's landfill gas to energy project. The project ended up being a partnership between Farmers Rural Electric Cooperative, Eastern Kentucky Power, and the City of Glasgow. Mayor Trautman expects operations of the project to be underway in 2015. In 2012, Cornerstone Environment Group conducted a feasibility study on behalf of the City of Glasgow to assess the content, quality and accessibility of the methane and determined at that time there was sufficient, high quality methane to allow for a successful capture and electrification project. Mayor Trautman explained that the landfill gas collection system will be installed by the City of Glasgow, the City will lease the land to EKPC for a generator, and the gas will be sold to EKPC and EKPC will build and operate the generator on-site and sell the electricity to FRECC.

Funding of the project came from the Energy and Environment Cabinet, USDA Rural Economic Development Loan, EKPC, and the Energy Efficiency and Conservation for Local Governments program. Mayor Trautman explained that via an agreement between FRECC and TVA, a redundant power source will be run to the City's wastewater treatment plant to provide backup emergency power from the project, which will save the City ~\$500,000. The 1 MW of electricity from the project can provide enough power for 500 homes in the City of Glasgow.

Landfill Gas Projects in Kentucky

Kenya Stump

Ms. Stump reviewed the current status of landfills in Kentucky and regulatory requirements as well as presented an overview of which sites have currently operating projects and which sites are good candidates for projects. There are approximately 16 candidate sites in Kentucky and of the current operating projects, Eastern Kentucky Power Cooperative owns and operates the majority of those landfill gas to energy projects. Ms. Stump discussed the economics of landfill gas to energy projects and in Kentucky these economics can be challenging because of low avoided costs rates of our utilities coupled with the conflict between power purchase agreements and the territory boundary laws. Ms. Stump mentioned that candidate landfills with collection systems in place have a better chance of being developed due to the cost of installing a collection system. Ms. Stump concluded by discussing that landfills were listed in the President's March 2014 Strategy to Reduce Methane Emissions and EPA is taking comment on updating the standards. MS. Stump also mentioned the Department's new landfill gas to energy webpage.

Dr. Mahendra Sunkara mentioned that landfills could be utilized for hydrogen production for industrial applications.

There was a discussion on who owns the renewable energy credits of the landfill gas to energy collection system. Mayor Trautman clarified that the City of Glasgow does not own the credits and the City has had potential industrial businesses request direct use of the landfill gas.

Conn Center for Renewable Energy Update

Dr. Mahendra Sunkara

Dr. Mahendra Sunkara discussed the research efforts from the Conn Center, personnel, and funding for research efforts. Dr. Mahendra Sunkara emphasized that the Center's theme for advancing renewable energy and energy efficiency stem from advances in new materials and processes. This is the theme to stimulate faculty involvement and funding to develop a Center of Excellence. Dr. Mahendra Sunkara discussed the Center's process to commercialize research and bring that research into the marketplace as well as how to attract passionate and highly skilled people to the Center. Dr. Mahendra Sunkara discussed how the Center is gaining attention nationwide and estimated significant progress in the next 5 years toward their research and commercialization goals.

There was a brief discussion of the upcoming Leigh Ann Conn Prize for Renewable Energy given by the Center. Dr. Peters mentioned the impressiveness of the awardee. This will be the first award given by the Center.

New Business

No new business was discussed and the meeting was adjourned in agreement by all.